

tion and rapidly nearing the earth. In a few moments it exploded, separating into three fragments, one going northward, one westward, and the third northwestward. A stream of fire and smoke was observed after the explosion.—*Atlantic Review*.

Newburgh, N. Y.: a large meteor fell on a farm in Orange county on the 7th. It was very brilliant, and in color yellow tinged with green. It broke into many small pieces, and the snow, covering about an acre, was found perforated, as with gravel stones.—*The (Nashville, Tenn.) Daily American*, Feb. 12th.

Ellicott City, Howard Co., Md.: a brilliant, luminous, cylindrical body passed over this place the night of the 15th, seemingly not more than several hundred feet above the earth, and, forming a curve, appeared to descend to the ground about a mile from the village. Its course was in a northwesterly direction, and during the several seconds it was visible the vicinity was lighted as by an electric light.—*The (Baltimore) Sun*, Feb. 16th.

Ljmona, Hillsborough Co., Fla.: a large meteor passed from the meridian toward the southeast at 10.30 p. m., 15th. A few minutes after, and near the point where this one disappeared, another, having the appearance of burning sulphur, with falling sparks of red, white, and green colors, was seen crossing the southern sky towards the west. Some seconds later two other meteors started, from the place of the last-mentioned, and moved southeasterly.—*Reported by Mrs. G. K. Mead*.

NOTE.—The meteor noted in January, 1889, REVIEW, for Rio Grande, N. J., was observed February 12, 1889.

MIRAGE.

Mirage were reported as follows: Woonsocket, Dak., 7th, 23d. Hampton, Iowa, 15th. Yuma, Ariz.: a mirage was observed in the southeast just before sunrise on the 5th; distant mountains below the horizon were seen with inverted images above. A mirage was also observed in the southeast on the 7th.—*Report of Signal Service observer*.

Colegrove, Los Angeles Co., Cal.: San Nicholas Island, situated about seventy-five miles southwest of this place, and ordinarily hidden from view, was visible the afternoons of the 10th, 11th, 27th, and 28th.—*Report of voluntary observer*.

SAND STORMS.

Dodge City, Kans.: a very severe sand storm prevailed during the day of the 4th. The wind attained a maximum velocity of fifty-eight miles per hour at 2.15 p. m., blowing down chimneys and out-houses.—*Report of Signal Service observer*. Yuma, Ariz.: a violent sand storm prevailed during the afternoon of the 14th; maximum velocity of wind forty-six miles per hour.—*Report of Signal Service observer*. Sand

storms also occurred at Fort Bowie, Ariz., 13th, and Willcox, Ariz., 14th and 15th.

SUN SPOTS.

Haverford College Observatory, Pa. (observed by Mr. H. V. Gummere):

Date. February, 1889.	Number of new—		Disappeared by solar rotation.		Reappeared by solar rotation.		Total number visible.		Faculae.	Remarks.	
	Groups.	Spots.	Groups.	Spots.	Groups.	Spots.	Groups.	Spots.			
1, 10 a. m. ...	1	6	0	0	0	0	1	6	1	8	Definition good; count of faculae stopped by clouds.
7, 10 a. m. ...	0	0	0	0	0	0	0	0	4	4	Definition good.
9, 11 a. m. ...	0	0	0	0	0	0	0	0	15	59	Definition very good.
12, 10 a. m. ...	0	0	0	0	0	0	0	0	4	13	Definition good.
13, 11 a. m. ...	0	0	0	0	0	0	0	0	4	11	Definition good.
14, 11 a. m. ...	0	0	0	0	0	0	0	0	3	8	Definition poor.
20, 11 a. m. ...	0	0	0	0	0	0	0	0	5	16	Definition good.
21, 12 m.	0	0	0	0	0	0	0	0	3	5	Definition poor.
25, 10 a. m. ...	0	0	0	0	0	0	0	0	1	1	Definition poor.
26, 11 a. m. ...	1	14	0	0	0	0	1	14	4	12	Definition good.

Mr. John W. James, Riley, McHenry Co., Ill.: the only ones seen were two small spots, half way from east edge to sun's meridian, on the 2d; these had vanished by the 5th; and a group of six small spots, two days west of meridian, on the 28th. Mr. H. D. Govey, North Lewisburgh, Champaign Co., Ohio: sun-spots were observed on the 1st and 28th.

VERIFICATIONS.

Owing to an interruption of work, due to a change in the location of this office, the percentages of the official indications of the Signal Service for February, 1889, were not completed in time to be published in this issue of the REVIEW. They will be published in the next number.

Percentages of local verifications of weather and temperature signals as reported by directors of the various State Weather Services for February, 1889.

States.	Weather.	Temperature.	States.	Weather.	Temperature.
Illinois.....	83.2	80.1	New Jersey.....	76.4	92.7
Indiana.....	87.7	85.7	New York.....	78.0	80.0
Kansas.....	84.8	89.7	North Carolina.....	79.8	72.5
Louisiana (northern).....	80.0	82.0	Ohio.....	89.0	85.0
Louisiana (southern).....	74.0	83.0	South Carolina.....	81.0	83.5
Michigan.....	82.0	81.1	Tennessee.....	84.5	77.5
Minnesota.....	87.0	80.0	Texas.....	87.0	86.0
Nebraska.....	82.2	85.0			

STATE WEATHER SERVICES.

[Temperature in degrees Fahrenheit; precipitation, including melted snow, in inches and hundredths.]

The following extracts are republished from reports for February, 1889, of the directors of the various state weather services:

ALABAMA.

The month has been colder than usual in all portions of the state, and the average temperature was 2.9 below the normal. The coldest day was the 7th, and the warmest period was the 16th and 17th. The warm wave crossed the northern part of the state on the 16th and was felt in south Alabama on the 17th. The close of the month moderated sufficiently to cause the buds of fruit trees to open rapidly.

There was a deficiency of rain at a majority of the stations and the average precipitation was 0.5 below the normal. The fall of snow that occurred on the 21st was large for this climate, but on account of the shallow depth, 2 inches, it remained on the ground only a few hours.

The weather has been generally favorable for farming operations, and the farmers have made satisfactory progress in placing the seed in the ground.

Summary.

Temperature.—Monthly mean, 46.3; highest monthly mean, 50.6, at Tuscaloosa; lowest monthly mean, 39.3, at Valley Head; maximum, 80, at Montgomery, 17th; minimum, 7, at Valley Head, 7th; range for state, 73; greatest local monthly range, 62 at Motes; least local monthly range, 41 at Mobile.

Precipitation.—Average for the state, 4.29; greatest, 7.14, at Valley Head; least, 2.00, at Greensborough.

Wind.—Prevailing direction, northwest.—*P. H. Mell, Signal Corps, Auburn, director*.

ARKANSAS.

Summary.

Temperature.—Monthly mean, 48.1; highest monthly mean, 49.9, at Texarkana; lowest monthly mean, 36.7, at Lead Hill; maximum, 86, at Texarkana, 16th; minimum, 4, at Eureka Springs, 6th; range for state, 81; greatest local monthly range, 72, at Eureka Springs; least local monthly range, 38, at Dallas.

Precipitation.—Average for the state, 2.53; greatest, 5.80, at El Dorado; least, 1.02, at Heber.—*Prof. John C. Branner, Little Rock, director; W. U. Simons, Sergeant, Signal Corps, assistant*.

ILLINOIS.

Temperature.—Mean of the northern division, 20; of the central division, 26; of the southern division, 31; maximum for northern division, 64, at

Charleston, 16th; for central division, 66, at Pana, 16th; for southern division, 78, at Makanda, 16th; minimum for northern division, —16, at Cedarville and Winnebago, 23d; for central division, —10, at Pekin and Atwood, 20th; for southern division, —1, at Greenville, Collinsville, and Benton, 23d.

Precipitation.—Average for the northern division, 1.31; for the central division, 1.68; for the southern division, 2.42; greatest in northern division, 2.82, at Dwight; in central division, 2.40, at Griggsville; in southern division, 4.87, at Collinsville; least in northern division, 0.61, at Lacon; in central division, 0.59, at Mattoon; in southern division, 1.15, at Golconda.—*John Craig, Sergeant, Signal Corps, Springfield, in charge.*

INDIANA.

February was a cold month; its mean temperature was nearly 7 below the normal for eighteen years, and about 2 below the normal for seven years. The steady cold temperature prevailing was only interrupted by abnormally high temperatures on the 4th and 16th. Very low temperature did not occur; in the southern portion of the state it barely reached zero, while in the central and northern portions the temperature fell only a few degrees below zero.

The precipitation, mostly in the form of snow, was very small and at many stations more than 2.00 inches below the normal. The smallest amount was measured in the central portion. The snowfall was least in the southern portion, and most in the northern, but rapidly disappeared after it had fallen.

Summary.

Temperature.—Monthly mean, 26.6; highest monthly mean, 34.9, at Marengo; lowest monthly mean, 20.4, at Angola; maximum, 71.0, at Vevay, 16th; minimum, —10.0, at Angola, 25th; range for state, 60.2; greatest local monthly range, 68.0, at Rockville; least local monthly range, 56.0, at Columbia City.

Precipitation.—Average for the state, 1.51; greatest, 3.62, at Marengo; least, 0.74, at Farmland.

Wind.—Prevailing directions, northwest and west.—*Prof. H. A. Huston, La Fayette, director; C. F. R. Wappenhans, Sergeant, Signal Corps, assistant.*

IOWA.

The month was cold, fair, and dry, northwesterly winds largely prevailing. The mean temperature was 3.7 below normal. The coldest days were the 22d and 23d, being 31 below normal. These were the only days of the entire winter on which the temperature remained below zero at noon at central station. The warmest days were the 2d, 3d, 14th, and 15th, averaging 12 above normal. The total number of very cold days on which the temperature fell to or below zero was five; the six preceding Februaries averaged eight very cold days each.

Snowfall was frequent, but very light, and rain fell only on the 4th, and from the 14th to 16th. While precipitation fell in Iowa on twenty days, it was general only on the 15th and 16th, mainly as rain; this also constituted the most abundant precipitation of the month. The total amount of precipitation exceeded one inch only in the extreme southeast and east of the state. It was less than a quarter of an inch in the western half. It averaged less than half an inch for the state.—*Dr. Gustavus Hinrichs, Iowa City, director.*

KANSAS.

The first half of the month was warm, being a continuation of the January weather, while during the last half the state was given a touch of genuine winter. In the eastern division the temperature ranged about 6 below the normal; in the middle it was slightly above, while in the western it fell decidedly below the normal.

Nearly all the precipitation was in the form of snow; it was heaviest in the eastern counties, Johnson and Miami receiving three inches and over; it was least in the counties south of the Arkansas and north of the Solomon rivers, while nearly an average precipitation occurred in the belt of counties extending from Greeley and Hamilton to Republic and Washington.

Summary.

Temperature.—Monthly mean, 27.4; highest monthly mean, 34.5, at Rome; lowest monthly mean, 19.8, at Tribune; maximum, 78, at Rome, 15th; minimum, —17, at McAllister, 20th; range for state, 95; greatest local monthly range, 84, at Rome; least local monthly range, 55, at Belleville; greatest daily range, 39, at Lebo, 2d and 14th; least daily range, 0, 28th, at Morse.

Precipitation.—Average for the state, 0.73; greatest, 3.05, at Morse; least, 0.04, at Englewood.

Wind.—Prevailing direction, north.—*Prof. J. T. Lovewell, Topeka, director; T. B. Jennings, Sergeant Signal Corps, assistant.*

KENTUCKY.

Summary.

Temperature.—The average temperature for the state during the month, as determined from the tri-daily observations, was 34.1; from the mean of the maximum and minimum, 34.3. These figures indicate a temperature of 5 less than the normal for the month. This deficiency is more than sufficient to neutralize the excess which existed January 31st. The mean daily maximum temperature was 43.6, and the mean daily minimum, 25. The highest temperature recorded in the state was 72, at Shelbyville, 16th, and the lowest, 4, at Ashland, 13th. The month was remarkable for the extreme monthly ranges of temperature reported; the state average being 59.7; the greatest, 66, at Shelbyville, and the least, 53, at Franklin. The 16th was in all sections of the state the warmest day, and the 6th, 7th, 13th, and 23d the coldest. At

the central station the average for the winter was 36.3, which is less than 1 below the normal.

Precipitation.—The average precipitation for February was 1.91, which is 2.50 less than the normal. The greatest amount of precipitation, 2.94, was reported from Shelbyville, and the least, 0.88, at Mount Sterling. The snowfall was much less than usual, the amount being insufficient, as a rule, to cover the ground for any length of time. The average number of rainy days was 6; cloudy, 15; fair, 6, and clear, 7.

Wind.—Prevailing direction, west.—*Dr. E. A. Grant, Louisville, director; Frank Burke, Sergeant, Signal Corps, assistant.*

LOUISIANA.

The remarkable features of the month were the great number of cloudy days and the lack of rainfall. The month can be considered the coolest and cloudiest February in past twenty years. The average rainfall for the northern section was but 1.08, a deficiency of 4.00 as compared with normal of past twenty years, and is the lowest average February rainfall in that period. The southern section received an average of 2.56, which is a deficiency of nearly 1.50 from the February normal for that section, making the deficiency for the state at large about 2.50. The greatest average rainfall was 6.63, in 1882, the least, 1.59, in 1871.

The average temperature for the state, 51.3, was 3 below the normal for the month. The deficiency in temperature was slightly greater in the southern section. There is a difference of nearly 6 between the normals for the northern and southern sections, the former being about 52, and the latter about 58.

The coolest February on record was in 1885, when the average temperature was below 48; the warmest, 1887, when the average temperature reached 62.

Frost occurred on an average of five days in the northern section, and on two days in the extreme southern section.—*R. E. Kerkam, Sergeant, Signal Corps, New Orleans, in charge.*

MICHIGAN.

Summary.

Temperature.—The mean temperature, 16.1, is 7.0 below the normal of fourteen years. The temperature is below the normal in all sections, and the deficiencies ranged from 1.6 to 7.9. The temperature was above the normal on six days, normal on one, and below the normal on twenty-one days. The highest mean daily temperature, 34, occurred on the 16th, when the temperature was 8 above the normal, and the lowest on the 23d, —7, when the temperature was 13 below the normal. The highest mean daily temperature in the past fourteen Februaries, 49, occurred in 1882, and the lowest, —7, on the 10th and 11th, 1885, and on the 23d, 1889. The highest mean monthly temperature, 33.4, occurred in 1882, and the lowest, 10.2, in 1885. This record, 10.2, is the only one in the past 13 Februaries that is lower than the record for 1889, 16.1. The maximum temperature for the month, 55, occurred on the 16th, and the lowest, —33, was recorded on the 23d and 24th, at two stations.

Precipitation. The average precipitation, 1.69, is 1.19 below the normal of fourteen years. The precipitation was below the normal in the southern peninsula and above the normal in the upper peninsula. The greatest amount of precipitation, 4.07, was recorded at Weldon Creek, Mason Co., and the least, 0.57, at Mio, Oscoda Co. Precipitation was general on the 4th, 5th, 8th to 11th, 16th, 17th, 18th, and 26th. Seven stations report one inch or more of precipitation in 24 hours; the largest amount in 24 hours, 1.43, was recorded at Northport on the 16th. The greatest amount of precipitation in the past 14 Februaries, 4.69, was recorded in 1881, and the least, 0.05, in 1877. Rain was recorded on the 4th and 16th, on all other dates the precipitation fell as snow, which, in most cases, was light and dry.

Wind.—Prevailing direction, northwest.—*N. B. Conger, Sergeant, Signal Corps, Lansing, director.*

MINNESOTA.

February was remarkable for being the coldest month of the winter season; the lowest monthly temperature is usually recorded for January in Minnesota.

The precipitation (snow) was nearly the average amount, and it fell principally from the 3d to the 16th, and on the 21st and 24th.

Summary.

Temperature.—The mean temperature, 7.7, is about 6 below the February normal of 16 years. The 23d was the coldest day of the month throughout the state, and all observers noted the highest temperature on the 28th. Range for the state, 97.5, the minimum being —44.5, at Grand Forks, Dak., 23d, and the maximum, 53, at Duluth, 28th.

Precipitation.—The average precipitation, 0.87, is about normal. The total monthly snowfall varied from 3 at Medford to 17 at Leech Lake Dam, the average fall over the state being 9. The depth of unmelted snow remaining on the ground at the end of the month was from 7 to 11 in the northern half of the state, and from 0 to 5 in the southern part.

Wind.—Prevailing direction, northwest.—*Prof. W. W. Payne, Northfield, director; John Healy, Private, Signal Corps, Saint Paul, assistant.*

MISSISSIPPI.

Summary.

Temperature.—The mean temperature of the state for the month, 46.3, is 4.2 less than the normal; highest local monthly mean, 53, at Logtown; lowest, 38.9, at Pontotoc; maximum, 81, at Water Valley, Louisville, and Greenville, 16th; minimum, 15, at A. and M. College, 7th, and at Batesville, 24th; the daily range at most stations varied in value from 12 to 28, except on the 5th, 10th and 15th, when it was less than 10.

Precipitation.—The average precipitation, 2.46, is 2.85 less than the normal for February. The rainfall was very unevenly distributed as to localities, and nearly all of it fell between the 14th and 18th. A fall of from 1.50 to 2.00 in twenty-four hours was reported on the 16th from Greenville, Batesville, Water Valley, University, Rienzi, and A. and M. College. A marked deficiency in quantity is especially shown in the central and southwestern parts of the state. Barely enough snow to cover the ground fell in the northern part of the state on the 6th.

Wind.—Prevailing directions, south and southeast.—*R. B. Fulton, Signal Corps, University, director.*

MISSOURI.

Summary.

Temperature.—The mean temperature for February was 29.5. The highest temperature reported in the state was 73 at Steelville and Glasgow, and the lowest, —9, at Mound City. The average of maximum temperatures was 66.8, and the average of minimum temperatures, —2.6, making an average range of 69.4. The highest temperatures occurred on the 4th, 15th, and 16th, and the lowest on the 6th, 19th, and 23d.

Precipitation.—The average precipitation was 2.60, which was 0.23 below the February normal. The greatest amount of precipitation reported was 5.97, at the central station, and the least was 0.54 at Langdon. In the state, as a whole, precipitation occurred on 22 days. The greatest number of days of precipitation at any one place was 18, at Fox Creek.—*Prof. Francis E. Nipher, Saint Louis, director; G. A. Weber, Sergeant, Signal Corps, assistant.*

NEBRASKA.

The month has been prevailing warm and dry, although two distinct cold waves, one from the 4th to the 6th and the other from the 21st to the 23d, brought the mean temperature down to about normal. The precipitation has been less than for any year, except 1878 and 1880.

Temperature.—The mean for the month was 22.8. February has an extremely variable mean temperature, being sometimes as high as 35 and sometimes as low as 10. There have been the normal number of freezing days, but rather less than usual below zero. The minimum for the month was —27, in the northern part of the state, which is the lowest February minimum recorded.

Precipitation.—Only one station, Falls City, in the extreme southeastern part of the state, reports 1.00, and only two others report over 0.50, Tecumseh, in the southeastern part, and Hay Springs, in the far northwest. The number of cloudy days was about normal and the number of rainy days a little below normal.—*Prof. Goodwin D. Swezey, Crete, director; G. A. Loveland, Corporal, Signal Corps, assistant.*

NEW ENGLAND METEOROLOGICAL SOCIETY.

Summary.

Temperature.—Monthly mean, 22.0 (105 stations); highest monthly mean, 29.6, at Nantucket; lowest monthly mean, 11.8, at West Milan; maximum, 58, at Westborough, 9th; minimum, —38, at Berlin Mills, 3d; range for New England, 96; greatest local monthly range, 90, at West Milan; least local monthly range, 44, at Brewster; greatest daily range, 54, at Berlin Mills, 22d; least daily range, 1, at Woonsocket, 8th. The average temperature in February of 27 stations, having records for more than 10 years, is 24.9; the departure for February, 1889, is —2.7.

Precipitation.—Average for New England, 2.32 (124 stations); greatest, 5.20, at Orono; least, 0.77, at Stratford. The average precipitation in February of 35 stations, having records for more than 10 years, is 3.72; the average for February, 1889, is 2.28; departure, —1.44.

Wind.—Prevailing direction, northwest (18 stations).—*Prof. William H. Niles, Boston, Mass., president; Prof. Winslow Upton, Providence, R. I., secretary; Park Morrill, Sergeant, Signal Corps, assistant.*

NEW JERSEY.

The mean temperature for February, 1889, is 3.8 below the average determined from past records of 50 stations, and 2.9 below the average for the corresponding month of 1888. The warmest days during the month were the 5th, 9th, 15th, 17th, 18th, and 19th, and the coldest the 4th, 23d, and 24th. The lowest temperature recorded in the northern portion of the state was 0; in the central, —3, and in the southern, 5. The mean temperature of the winter season just closed, 32.9, is 2.6 above the winters of 1887 and 1888, and 1.7 above the winter normal.

Summary.

Temperature.—Monthly mean, 27.7; highest monthly mean, 32.9, at Bridgeton; lowest monthly mean, 25.1, at Madison; maximum, 57, at Plainfield, 19th; minimum, 3, at Locktown, 24th; range for state, 60; greatest local monthly range, 58, at Plainfield; least local monthly range, 42, at Billingsport and New Brunswick; greatest daily range, 34, at Allaire, 5th; least daily range, 0, at Union, 18th.

Precipitation.—Average for the state, 2.49; greatest, 3.80, at Ocean City; least, 1.65, at Hopewell.

Wind.—Prevailing directions, northwest and west.—*Prof. George H. Cook, New Brunswick, director; E. W. McGann, Sergeant, Signal Corps, assistant.*

NEVADA.

Temperature.—Reports received from 23 stations show that the mean for the state, 33.6, was slightly below the average, 36.4. El Dorado Canyon, Lincoln Co., reported a maximum of 75.2 on the 28th, the minimum, —11, occurred at Elko on the 1st, making the absolute range for the state, 86.2. It

was coldest in the northern part of Eureka county, in the vicinity of Beowawe, and was warmest in the southern part of Lincoln county, around El Dorado Canyon; the mean monthly temperature at the latter place being 55.2.

Precipitation.—(12 stations: 6 in the extreme western and 6 in the north-eastern and eastern portions of the state.) Average for the state, 0.37, a little more than half the average for the same month last year. The largest amount at a single station in any 24 consecutive hours was 0.64, at Ely, 15th. Pioche reported the largest monthly rain and snowfall, 0.79. Although 26 inches of snow fell in the southern part of Elko county and 12 inches in the northeastern part of Lincoln county, yet Pioche is the only station at which snow was reported as being on ground on last day of the month.—*Prof. Chas. W. Friend, Carson City, director; H. F. Alciatore, Private, Signal Corps, assistant.*

NEW YORK.

Summary.

Temperature.—The highest temperature was 54, at Setauket, L. I., 5th, and at Erie, Pa., 16th; the lowest, —35, at Canton, 4th. The mean temperature for the state was 18.5; the 17th was the warmest, and the 23d the coldest day. The temperature was below the normal at all stations, except Palermo and Setauket, where it was about 1 above.

Precipitation.—Average for the state, 2.26. The amount was below the average at all stations, except Angelica, where it was 0.54 above; at Potsdam, 3.10 above; Utica, 2.31 above, and at Palermo, normal. The greatest daily rainfall was 1.50, at Ardenia, 18th. The average number of days on which the precipitation was 0.01 or more was 12.

Wind.—Prevailing direction, west.—*Prof. E. A. Fuytes, Ithaca, director; I. W. Brewer, Private, Signal Corps, assistant.*

NORTH CAROLINA.

Summary.

Temperature.—Monthly mean, 39.4; highest monthly mean, 43, at Southern Pines; lowest monthly mean, 36.7, at Mount Pleasant; maximum, 72, at Southern Pines, 18th; minimum, 8, at Lenoir; mean monthly range, 62.4.

Precipitation.—Average for the state, 3.84; greatest, 6.66, at Statesville; least, 1.95, at Wake Forest.

Wind.—Prevailing directions, northeast and west.—*Dr. Herbert B. Battle, Raleigh, director; H. McP. Baldwin, Sergeant, Signal Corps, assistant.*

OHIO.

Summary.

Temperature.—The mean temperature of the northern section was 22.6; the middle section, 25.4; the southern section, 29.9; and the state, 25.8. These means are 3.3, 2.2, 2.7, and 3.0 below the means for the sections and state, respectively. The highest temperature reported during the month was 69.8, at Cincinnati, 16th, and the lowest —13.5, at Jefferson, 24th. The mean daily range of temperature was 17.5; the maximum range being 43, at Wauseon, 21st, and the minimum, 2.0, at Toledo, 5th. It was the coldest February since 1886, in which year the mean temperature of February was 19.3.

Precipitation.—The precipitation was general, mostly in the form of snow, on the 8th, 11th, 16th, 17th, and 18th. Light local rain or snow occurred in all sections on the 3d, 4th, and 13th; in the northern section on the 7th, 12th, 22d, and 26th; in the middle section on the 6th, 9th, 15th, and 26th; and in the southern section on the 12th, 15th, and 27th. The mean for the state, 1.35, is 2.29 below the average, and is the smallest rainfall on record for February. The greatest monthly rainfall was 2.44, at Marietta; least, 0.47, at Youngstown.

Wind.—Prevailing direction, west.—*Prof. B. F. Thomas, Columbus, director; Lieut. Charles E. Kilbourne, secretary; C. M. Strong, Private, Signal Corps, assistant.*

PENNSYLVANIA.

Summary.

Temperature.—The mean temperature, obtained from the daily observations of 46 stations, was 23, which is 6 below the normal. The mean daily maximum and minimum temperatures, 31.3 and 14.8, respectively, give a monthly mean of 23. Uniontown reports an average daily temperature of 30, and Eagle's Mere, 12; which are the two extremes. The highest temperatures reported were: Indiana, 60; Uniontown, 58; McConnellsburgh and Philipsburgh, 56; the lowest, Coudersport and Smethport, —27; Columbus, —26; Grampian Hills and Clarion, —21. The low temperatures occurred the 24th.

Precipitation.—Average for the state, 1.96, which is 1.25 less than the normal. The precipitation was evenly distributed throughout the state, and at quite regular intervals during the month. Snows were numerous, but soon melted in the agricultural districts. The greatest snowfalls for the month were: Eagle's Mere, 28; Smethport, 20; Philipsburgh and Wellsborough, 18; Coudersport and Grampian Hills, 17. No heavy drifts occurred.

Wind.—Prevailing direction, west.—*Under direction of the Franklin Institute, Philadelphia; T. F. Townsend, Sergeant, Signal Corps, assistant, in charge.*

SOUTH CAROLINA.

Summary.

Temperature.—The mean for the month was 41.9, being 8 lower than the record for February, 1888; the maximum occurred on the 17th and 18th, and the minimum on the 7th; highest monthly mean, 46, at Charleston; lowest monthly mean, 36.5, at Evergreen; maximum, 75, at Aiken, 17th; minimum, 10, at Evergreen and Winnsborough, 7th; range for state, 65.

Precipitation.—Mean depth of rainfall, 5.60; greatest monthly rainfall,